

MODULE SPECIFICATION

Module Title:	Blood Sciences	Level:	7	Credit Value:	20
---------------	-----------------------	--------	---	---------------	----

Module code:	BMS702	New <input type="checkbox"/> <input checked="" type="checkbox"/>	Code of module being replaced:	NA
		Existing		

Cost Centre:	GANG	JACS3 code:	F165
		HECoS code:	100265

Trimester(s) in which to be offered:	1	With effect from:	February 2019
--------------------------------------	---	-------------------	---------------

Faculty:	Social & Life Sciences	Module Leader:	Prof Stephen Fôn Hughes (BCUHB)
----------	------------------------	----------------	---------------------------------

Scheduled learning and teaching hours	21 hrs
Guided independent study	179 hrs
Placement	0 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered	Core	Option
MSc Biomedical Science	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MRes Applied Biomedical Sciences Research	<input type="checkbox"/>	<input checked="" type="checkbox"/>
MRes Applied Clinical Research	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Pre-requisites
N/A

Office use only

Initial approval January 19

APSC approval of modification *Enter date of approval*

Have any derogations received SQC approval?

Version 1

Yes No

Module Aims

The module aims to build on previous knowledge of biology of disease and focuses on clinical and current research topics in haematology and clinical biochemistry (Blood Sciences).

Specifically, the module will allow students to develop an understanding of transfusion science and various clinical haematological and biochemical (blood sciences) disorders, and to develop an in-depth knowledge of the laboratory investigations performed in the diagnosis and management of such diseases.

Intended Learning Outcomes

Key skills for employability

- KS1 Written, oral and media communication skills
- KS2 Leadership, team working and networking skills
- KS3 Opportunity, creativity and problem solving skills
- KS4 Information technology skills and digital literacy
- KS5 Information management skills
- KS6 Research skills
- KS7 Intercultural and sustainability skills
- KS8 Career management skills
- KS9 Learning to learn (managing personal and professional development, self-management)
- KS10 Numeracy

At the end of this module, students will be able to

Key Skills

1	Critically evaluate various clinical haematological conditions (e.g. haemolytic anaemia's, myelodysplasia, leukaemia) and blood transfusion science	KS1	KS5
		KS6	KS3
2	Critically evaluate various clinical biochemistry conditions (e.g. multiple myeloma, thyroid Pathophysiology, disorders of lipid metabolism)	KS1	KS5
		KS6	KS3
3	Interpret of data relevant to the blood sciences (laboratory diagnosis and management), applying a scientific approach to problem solving	KS1	KS3
		KS6	KS9
		KS10	
5	Critically evaluate scientific literature appropriate to the field	KS1	KS3
		KS5	KS10

Transferable skills and other attributes

Critical analysis of relevant literature
 Research, investigative and problem-solving skills

Derogations

N/A

Assessment:

Indicative Assessment Tasks:

Learning outcomes assessment will be summative by means of a case study (4000 words = 100% of module assessment). This written coursework is expected to be of high standard and well-researched with current references provided. Assessment topics will involve topics pertaining to the blood sciences.

Students will be required to give a presentation on the third day of face to face learning which will be formative assessment and feedback from that will be used towards the case study.

Reassessment

Any student who fails this module will be reassessed in the component they failed. This reassessment will be in the same format as the failed component and will assess the original learning outcomes in that component.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	All	Case Study	100%	N/A	4000 equivalent

Learning and Teaching Strategies:

Strategies used in this module will involve a blend of several Higher Education teaching and Learning methods. These will include lectures, seminars, tutorials, case studies and student-led presentations.

On-line learning will consist of blogs, learning diaries, contribution to fora, quizzes and weekly check-ins.

Several sources of information (e.g. Literary books, online literature, web sites) will also be available for students.

Syllabus outline:

- Classification of anaemia (e.g. microcytic, macrocytic and haemolytic)
- Haemostasis and bleeding disorders
- Haematological malignancies and myeloproliferative disorders
- Blood group systems (e.g. ABO, Rh, Kidd, Duffy, Kell etc.)
- Hazards of Transfusion

- Blood products and components (e.g. fresh frozen plasma, cryoprecipitate, etc.)
- Pre-transfusion testing (e.g. antibody screening/identification)
- Biochemical tests for selected disorders of organ function and human biochemistry (e.g. liver function tests)
- Clinical enzymology and biomarkers
- Electrolytes and acid-base balance
- Calcium and bone disease
- Common drugs and poisons (toxicology)
- Current research and clinical case studies relevant to the blood sciences

Indicative Bibliography:

Essential reading

Ahmed, N., & Smith, C. A. (Eds.). (2010). Clinical biochemistry. Oxford, United Kingdom: Oxford University Press.

Blann, B., & Ahmed, N. (2014). Blood sciences. Chichester, United Kingdom: Wiley-Blackwell.

Burtis, C. A., Ashwood, E. R., & Burns D. E. (Eds.). (2014). Tietz fundamentals of clinical chemistry and molecular diagnostics. (7th ed.). Philadelphia, PA: Elsevier Saunders.

Hoffbrand, A. V., & Moss, P. A. H. (2011). Essential haematology. (6th ed.). Oxford, United Kingdom: Wiley-Blackwell.

Knight, R. (Eds.). (2013). Transfusion & transplantation science. Oxford, United Kingdom: Oxford University Press.

Marshall, W. J., Bangert, S. K., & Lapsley, M. (2012). Clinical chemistry. (7th ed.). Edinburgh, United Kingdom: Mosby.

Other indicative reading

British Journal of Biomedical Science (<http://www.bjbs-online.org/>)

British Journal of Inflammation (<http://www.journal-inflammation.com/>)

European Journal of Medical Research (<http://www.eurjmedres.com/>)

PLOS Medicine (www.plosmedicine.org/)